190 Prostate Examination

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Definition

The normal adult prostate gland is heart shaped with a weight of approximately 20 to 25 g. Abnormal findings on rectal examination include areas of firmness, either localized (nodules) or generalized. Bogginess and asymmetry may also be noted.

Technique

The reader should review the techniques described in Chapter 97, Rectal Examination. The prostate gland is located anteriorly, and the examiner should be able to palpate two relatively firm lobes with a distinct furrow (sulcus) between and lateral to each lobe. During the rectal examination in men, the index finger should be extended superiorly across the top of the prostate, sweeping laterally across each lobe to check for palpable nodule(s) or localized areas of softness, induration, or tenderness. The seminal vesicles may be felt as V-shaped extensions in the superolateral area, but usually they are palpable only if inflamed or containing a neoplasm.

Basic Science

The normal prostate gland has five lobes: anterior, posterior, lateral (two), and medial. The medial and two lateral lobes are most prominent. The three major conditions that affect the prostate gland are benign prostatic hypertrophy, prostatitis, and prostatic cancer.

Hypertrophy of the prostate occurs primarily in the medial and lateral lobes. It involves smooth muscle, connective tissue, and glandular elements of the normal gland. It often begins in the periurethral glands where the urethra traverses the prostate. Accordingly, symptoms of lower urinary tract obstruction may occur relatively early in the clinical course of prostatic enlargement.

Prostatic nodules may be palpated in any portion of the prostate. True nodules must be distinguished from rectal mucosal lesions and may be due to benign prostatic hypertrophy (BPH), palpable prostatic calculi, or adenocarcinoma of the prostate. With few exceptions, it is mandatory to biopsy all prostatic nodules because the etiology of a nodule cannot otherwise be determined.

Prostatitis may be acute or chronic, bacterial or abacterial. Abacterial prostatitis is sometimes referred to as prostatosis. Acute bacterial prostatitis is accompanied by irritative urinary symptoms such as dysuria, frequency, and urgency. Fever may be significant. Prostatic examination should be limited to making the diagnosis since, in this setting, prostatic massage may lead to considerable morbidity, including septicemia. Prostatitis may be evaluated by the three-glass test as described in Chapter 184, Hematuria. Urine cultures will be positive in acute bacterial prostatitis.

Chronic prostatitis may be associated with a mild urethritis causing early morning secretions in the urethra. Glass 1 of the three-glass test may be cloudy and contain mucous threads. Glass 3 (collected after prostatic massage) may contain clear evidence of white blood cells not present in the previous samples. Massage should be gentle from the lateral toward the medial lobe, and down the middle from base to apex.

Adenocarcinoma of the prostate typically begins in the posterior lobe. The gland may be large, asymmetrical, or hard; or the cancer may be too small to palpate. Occasionally, there will be induration of a lateral lobe with obliteration of the lateral sulcus. The location of most malignancies of the prostate is such that urethral compression and symptoms of lower tract obstruction may appear relatively late in the clinical course. Obstructive symptoms, however, can occur in a short time, whereas the symptoms of BPH are usually noted to be insidious when a careful history is taken. Moreover, serum acid phosphatase usually remains within normal limits in the absence of extension or metastasis of the malignancy. Careful rectal examination of the prostate is mandatory for early detection of prostate cancer.

Clinical Significance

The clinical significance of careful examination of the prostate gland is highlighted by the observation that approximately one-third of men above age 60 will have some symptoms or findings referable to the prostate.

Prostatic carcinoma represents 10% of all noncutaneous malignancies in men, occurring in 10% of those above the age of 60. Prostatic carcinoma is found in up to 50% of autopsy specimens in men above the age of 80 who died of other causes. Sixty to 70% of cases show local extension or distinct metastases. Hence, early diagnosis and treatment are imperative and are best facilitated by obtaining a biopsy early in the course of suspected abnormalities of the prostate.

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